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# CURRENT LITERATURE IN AGRICULTURAL ENGINEERING

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WASHINGTON, D. C.

Vol. 5, no. 2. September, 1935.

Agricultural Engineering.

Agricultural engineering for farm power and machinery. By L. J. Fletcher. Georgia Ag. Engineer. 1935. p. 21-23.

Agricultural Engineering responsibilities. By Glen W. McCuen. Agricultural Engineering. v.16, no. 7. July 1935. p.253-256. Teaching and extension. Research. Land policy and buildings. Rural electrification. Cooperation with industry.

Rural electrification as a field for agricultural engineers. By George W. Kable. Georgia Ag. Engineer. 1935. p.31-32.

Wanted: Agricultural Engineers. By Raymond Olney. Georgia Ag. Engineer. 1935. p.11-14.

Agriculture.

Agricultural Department Appropriation Act of 1936. Experiment Station Record. v.73, no.1. July, 1935. p.1-4.

Agriculture and automotive development. By Charles Deere Wiman. Northwest Farm Equipment Journal. v.49, no.8. August, 1935. p.19-23.

Census tells Arizona farm story. Arizona Producer. v.14, no.11. August 15, 1935. p.8-9. State has more land in crops than five years ago, units smaller, more cattle, but lower valuation.

Problems of agriculture are problems of industry. By Frank A. Briggs. Farm and Ranch. v.54, no. 13. July 1, 1935. p.3-4.

There's no mystery in field fallowing. By E.R. Parsons. Western Farm Life. v.37, no. 6. June 15, 1935. p.6.

Yields of harvested grain. Farm Implement News. v.56, no. 18. August 29, 1935. p.37. Production of 1935 in principal states compared with five-year averages.

Air Conditioning.

Air conditioning for California homes. By B. M. Woods and B. F. Raber. Heating and Ventilating. v.32, no. 7. July 1935. p.24-28. Question of economy. Insulation. Mechanical equipment. Initial and operating

Air Conditioning. (Cont'd)

costs of typical cooling systems. Abstracted from bulletin 589, Agricultural Experiment Station, College of Agriculture, University of California.

Air conditioning fundamentals. By Louis A. Harding. Heating, Piping and Air Conditioning. v.7, no. 9. September 1935. p.429-433. Theory of compression refrigeration cycle is briefly covered, with formulas and charts to facilitate use of data.

Cold water and air conditioning equipment serve to keep this home cool in summer. By Neil D. Skinner. Domestic Engineering. v.146, no.2. August 1935. p.70-72, 148-150. Installation shows how both shallow and deep well pumping systems can be applied for cooling of homes.

Hollow-wall cooling for home at low cost. Popular Mechanics Magazine. v.64, no. 1. July 1935. p.38. Diagram shows built-in cooling system.

Low-priced air conditioning system seen for home use. Science News-Letter. v.27, no. 742. June 29, 1935. p.412. New development is use of silica gel.

Rational heat gain method for the determination of air conditioning cooling loads. By F.H. Faust, L. Levine and F.O. Urban. Heating, Piping and Air Conditioning. v.7, no. 8. August 1935. p.391-401. Summarizes factors which affect cooling load, and describes systematic and rational method for accurately determining its character and magnitude.

Summer air cooled by unit that absorbs moisture. Popular Mechanics. v.63, no. 5. May, 1935. p.724. Unit consists of silica gel supported in compartments, fans to convey absorption and reactivating air through beds, heater, motor, cooler and automatic controls. For continuous operation, silica gel compartments are connected to suitable ducts and rotating valves by which air stream or heated activation air is alternated from one silica gel compartment to another at ten-minute intervals. Once dehumidified, air is cooled by surface-type coolers.

Use of ice in domestic air conditioning. By Harold L. Kipp. Ice and Refrigeration. v. 89, no. 3. September 1935. p. 117-118. Possibilities of using ice for summer cooling in homes. Description of experimental work carried on in seven room house during summer of 1933.

Alcohol.

Alcohol and alcohol-gasoline blends as fuels for automotive engines: 1. Performance tests of nearly straight alcohol of different grades using a six-cylinder automobile engine. By A.L. Teodoro. 1935. 180-218p. Separate from the Philippine Agriculturist. August 1935.

Alcohol.

Why power alcohol? By Oswald Wilson. Western Irrigation. v.17, no. 11. August, 1935. p.6-7. If national prosperity is to be restored, and purchasing power rebuilt, we must increase and stabilize purchasing power of agriculture by developing new, non-competitive, high income root crop from which alcohol can be produced at low cost to supplant low income marginal hay and grain crops, which now create burdensome surplus. Power alcohol offers constructive, permanent plan for solution of our National problems. 1. It will insure dependable supply of motor fuel from renewable sources at reasonable cost. 2. It will protect and perpetuate investments of petroleum industry. 3. It will stabilize and increase purchasing power of agriculture. 4. It will aid livestock industry by supplying high protein feed at low cost. 5. In having agriculture grow raw materials on farm, and petroleum industry to process and market same will restore economic balance that was destroyed when the horse was replaced by tractor, truck and automobile. 6. It will largely relieve unemployment because at present time no labor is employed in production of crude oil and only 180,000 wage earners employed in petroleum industry from wells to refinery while several million wage earners will be employed on farm to produce raw material and process same.

Associations.

Proceedings of the eleventh annual convention of the National Fertilizer Association held at White Sulphur Springs. W. Va. June 10, 11, and 12, 1935. National Fertilizer Association, Washington, D.C. 1935. 210p.

Building Construction.

Concrete house construction. Architectural Record. v.78, no. 2. August 1935. p. 110-113. Earley process precast mosaic concrete panels. Monolith hollow walls. Armostone system. Lockstone system. Swan system.

Fiber building boards: their manufacture and use. By Charles G. Weber. Industrial and Engineering Chemistry. v.27, no. 8. August, 1935. p. 896-898. Boards are made of crudely refined vegetable fibers obtained principally from agricultural crop plant wastes, and sawmill wood wastes. Raw materials are softened for pulping by digesting in dilute alkali or acid or water under pressure. Boards are made on modified paper-making machines in continuous sheets and dried over hot rolls or between heated platens. Moisture resistance is obtained by incorporating sodium resinate or by means of water-proof surface coatings. Heat- and sound-insulating properties are based on low-density and high-porosity characteristics of loosely felted fibrous structures.

Fireproof siding look like wood. v.64, no. 1. July 1935. p.62. Made of Portland cement and asbestos fibers.

Building Construction. (Cont'd)

How business can cash in on housing act. By James A. Moffett. Printers' Ink. v.170, no. 13. no. 13. March 28, 1935. p. 7, 10, 94-96.

Overstating progress of prefabrication in low-cost homes deters building revival. American Lumberman. no.3052. p.1, 51. Still belongs in laboratory.

Prefabricated home not ready.- May not be cheaper. Brick & Clay Record. v.87, no.2. August, 1935. p.45. Statement of Carl M. Snyder, appliance director of G-E's "New American Home" campaign, made at American Furniture Mart in Chicago recently, to effect that prefabricated house of extreme low cost is long way off and may never get here, is of more than passing interest.

Prefabrication with wood. By George W. Trayer and Hamilton Beatty. August, 1935. p. 102-109. Standardized prefabricated wall unit. Foundations.

Relative cost of material and labor in P.W.A. building construction. By Herman B. Byer. Monthly Labor Review. v.41, no. 1. July, 1935. p. 117-119

Silicate of soda in the building industry. By James G. Vail. Industrial and Engineering Chemistry. v.27, no. 8. August 1935. p.888-893. Subject is discussed under general headings of adhesives, cements, gels, films, intumescent products, and cleansers. Adhesive uses include wall board manufacture, bonding fibers, and water-resistant mixtures of casein and blood albumin. Films are used for fireproofing fabrics and structural timbers. Refractory cements, acid-resisting settings, welding rod coatings, and plastic masses for decorative panels are made with silicate of soda. Porous subsoil is consolidated by interaction of silicate and precipitants such as calcium chloride. Weather-resistant paints for glass, stone, etc., and permanent colors for roofing granules are prepared in silicate vehicle. Anhydrous silicates are used in ceramic glazes and acid-resistant enamels. Thermal insulators are made by rapidly heating partially dehydrated silicates. Sodium meta- and sesquisilicates, alone or modified by soap or rosin, are efficient cleansers of concrete and metal.

Concrete.

Better farm buildings. Concrete work. The Farmer. v.53, no. 11. June 8, 1935. p. 14, 21.

Cement and concrete reference book, 1935. Portland Cement Association. Chicago, Ill. 31p.

Cotton and Cotton Ginning.

Ginning cotton. By Charles A. Bennett and F.L. Gerdes. 1935. 46p. U.S. Department of Agriculture. Farmers' bulletin no. 1748.

Heart of the gin. By W. C. Torbett, Sr. Cotton Ginners' Journal. v. 6, no. 11. August, 1935. p. 7, 22.

Mechanical cotton picker to be tested in Arizona. Arizona Producer. v. 14, no. 11. August 15, 1935. p. 16. Rust cotton picker, newly invented machine which is expected to revolutionize American cotton industry and solve forever the harvest labor problem, is to be given a tryout this season in Salt River Valley.

Preparing cotton gins for commencement of season. By Charles A. Bennett. Cotton Ginners' Journal. v.6, no. 11. August, 1935. p. 5-6. Considers matter of drives, fans, lubrication, packing and piping.

Recent developments in cotton machinery. By Frank Nasmith and Walter English. International Cotton Bulletin. v.13, no. 52. July, 1935. p.681-703. Opening and cleaning machinery; caring and combing; flyframes; spinning and doubling; yarn clearing; staple fibre; gassing; processing; weaving; knitting; testing machinery.

Dams.

Design of stilling basins for small dams and weirs. By Garrett B. Drummond. Agricultural Engineering. v.16, no. 8. August, 1935. p. 319-320. Prevention of erosion at toe of dam. Flow over small check dam.

Fort Peck project and dam. By Thomas B. Larkin. Engineering News-Record. v. 115, no. 9. August 29, 1935. p. 279-282.

Fort Peck project structures. Engineering News-Record. v. 115, no. 9. August 29, 1935. p. 283-284. Dam embankments, outlet and spillway are structually notable and involve movements of earth and rock far exceeding any in previous dam work.

Safety feature in earth dam spillway tested in New York flood. By Wallace V.R. Fretts. Engineering News-Record. v. 115, no. 10. September 5, 1935. p. 319. Failure of sections of riprap bears out design predictions when head of 4.25 feet over spillway closely approaches estimated 500-year possibility of 5-foot crest.

Water users get Verde dam. Arizona Producer. v. 14, no. 10. August 1, 1935. p. 1, 15. Total of $6,844,000 to be spent in completing project, including spillways. Work starts this Fall.

Ditches.

Permanent type of ditch construction. By Alfred H. Fletcher. American Journal of Public Health and the Nation's Health. v.25,

Ditches. (Cont'd)

no. 8. August, 1935. p. 897-906. Ditches lined with concrete and sodding, or with rip-rap material and sodding. Maintenance cost is low, flood damage by erosion and loss of public and private property is stopped.

Electric Services,Rural.

Factors in making electric power supply dependable. By Robert Treat. General Electric Review. v.38, no. 7. July, 1935. p. 312-316. Part I. Review of advances in knowledge, methods, design and equipment by which many power companies are meeting modern requirements for service continuity.

Factors in making electric power supply dependable. By Robert Treat. General Electric Review. v.38, no. 8. August, 1935. p. 376-383. Part II. Prevention, mitigation and amputation methods of protecting service and apparatus: and comparison of alternative methods.

Electric Wiring.

Farmer's problem is to finance wiring and appliances, Utilities Committee finds. Domestic Commerce. v. 16, no. 5. August 20, 1935. p. 422-423. Problem of farmer is not one of rates, but of financing wiring and purchase of appliances, is indicated by his necessary expenditure of $354 for these facilities, an amount equal to average of at least seven times annual bill for farm electric service, according to report by Rural Electrification Committee of Privately Owned Utilities. Thus sacrifices in nature of losses in return on investment incurred by privately-owned utilities in carrying out proposed program, will be of no avail unless terms of payment and interest rate offered to prospective new customers for wiring and purchase of household electric appliances and farm equipment are on more liberal basis than heretofore available. Opportunity will thus be presented to several hundred thousand rural homes to obtain electric service that would otherwise be impossible until present income of this group is greatly increased.

Electricity in the Home.

Electricity for the house. By Henry L. Logan. Architectural Record. v. 78, no. 2. August, 1935. p. 137-144. Check list of optimum electrical facilities for six-room dwelling.

Electricity on the Farm.

Application of electric power to agriculture. By H. G. Kemp. New Zealand Electrical Journal. v. 8, no. 3. June, 1935. p. 13-16. Kerosene and diesel tractor can be successfully challenged by electricity as tractor power for ploughing and cultivating.

Electric fencing made safe by power control unit. Popular Mechanics. v.64, no. 1. July 1935. p.45. Cuts current off and on at five-second intervals. Makes it possible to send sharp shock as far as four miles on fence wire in any weather. Operating costs for 200 acres amounted to about ten cents per month.

Electricity on the Farm. (Cont'd)

Electricity in poultry farming. By C.A. Cameron Brown. Oxford, University Press, 1935. 73p. Institute for research in agricultural engineering, University of Oxford.

Government agencies discuss rural sales. Electrical World. v.105, no. 18. August 31, 1935. p.45. Officials of R.E.A. and E.H.F.A. confer with representatives of utilities and industry. Electrification of 1,000,000 rural homes objective.

Government's rural electrification activities. Farm Implement News. v. 56, no. 15. July 18, 1935. p. 19. R.E.A. will make no grants. Under suitable conditions it will lend entire cost of building power and light lines in areas now without electric service. Loans will be for twenty years, normally, at low interest rate of per cent. No farmer will be required to mortgage his home

Proves economy of electric brooding. Electrical World. v.105, no. 18. August 31, 1935. p. 66.

Rural electrification estimates clarified. Electrical World. v.105. no. 16. August 3, 1935. p. 17. Refers to rural electrification balance sheet in Electrical World, of June 22, 1935.

U.S. financing for farm electric equipment. Farm Implement News. v.56, no. 18. August 29, 1935. p. 27. On basis of one million homes, prospective expenditures for material, equipment and appliances have been estimated as follows: Wiring and lighting, $80,000,000; water pumps and water supply equipment, $50,000,000; plumbing and sanitary equipment, $30,000,000; appliances - house and farm, $209,000,000.

Engineering.

Engineering in foreign countries. Engineering News-Record. v.115, no. 10. September 5, 1935. p. 325-327. Improving hill terraces by blasting. Soviet prefabricated buildings. Water purification with ozone. Effect of forests on yield of watersheds.

Erosion Control.

Attacking soil erosion problem on nation-wide front. By H. H. Bennett. Agricultural Engineering. v.16, no. 8. August, 1935. p. 293-297. Address before 29th annual meeting of American Society of Agricultural Engineers, at Athens, Georgia, June, 1935. There must be permanent program of erosion control, if this country is to maintain permanent prosperity on its agricultural lands. Continuing land wastage seriously threatens welfare of large farming populations, and eventually will result in partial or entire abandonment of many sections, if not vigorously combatted without further delay. And thus unrestrained soil erosion directly and indirectly menaces safety of nation, for very roots of republic are fastened in our farm and grazing lands, more than seventy-five per cent of which is subject to impoverishing effects of erosion.

Erosion Control. (Cont'd)

Checking erosion. By Lester H. Hartwig. Farm Journal. v.59, no. 9. September, 1935. p. 7, 34. Terraces, strip cropping, and tree planting play a big part.

Committee reports on soil erosion on Vale project. Oregon. Reclamation Era. v.25, no. 8. August, 1935. p. 170.

Effect of cover on surface run-off and erosion in the loessial uplands of Mississippi. By H.G. Mcginnis. 1935. 16p. U.S. Department of Agriculture. Circular no. 347.

Is your farm going to sea? American Agriculturist. v.132. no. 13. June 22, 1935. p. 5, 12.

Let's hold that good rich top soil. By B.W. Allred. Western Farm Life. v.37, no. 7. July 15, 1935. p. 3. SCS farmers cooperate to prevent wind and water erosion.

Matter of soil erosion. By J.F. Porter. Bureau Farmers Tennessee Section 10, no. 11. July, 1935. p. 9.

Rain traps. By W.J. Hough. Capper's Farmer. v.46, no. 9. September, 1935. p. 10, 19. Some terraces which other farmers are using to help water in its descent of slope, terraces constructed to get that water off with least damage to their fields, have been put to work in trapping moisture. Only difference is in arrangement. Alternate ends of terraces are closed so water must meander back and forth across slopes. Most of it is absorbed by thirsty soil before any reaches lower side of farm. Called sirup pan system. One step further. Both ends of terraces are closed. Water which falls between terraces backs up against lower one and forms a pool. Through air or soil is only way it can escape.

Reforming the lister. By M.W. Beeler. Capper's Farmer. v.46, no. 8. August 1935. p. 6, 11. Listing row crops has contributed more to loss of soil by water erosion in territory where it is practiced than any other farm operation. Farmers who have insisted upon planting with compass, regardless of slope, have hastened destruction of their fields. Every lister furrow is potential gully under such conditions.

Results of recent engineering studies in soil erosion control. By F.O. Bartel. Agricultural Engineering. v.16, no. 8. August, 1935. p. 304-307, 312. Cross section of terraces. Cost of terrace construction. Operation of farm machinery

Runoff of 34 per cent solids after denudation of watershed. Engineering News-Record. v.115, no. 7. August 15, 1935. p. 235. Fire-denuded watershed, drenched by heavy rainfall, last fall discharged such large quantity of solids into Devil's Gate reservoir at Pasadena, that survey was made to establish actual figures. Total accretions due to silting up of reservoir in period from October, 1920, to

Erosion Control. (Cont'd)

September, 1934, amounted to 704 acre-feet, or 1.43 per cent of total inflow of 49,174 acre-feet recorded as entering reservoir in fourteen-year period.

S.C.S. erosion control program. By T.B. Chambers. Agricultural Engineering. v.16, no. 8. August, 1935. p. 301-303. Paper presented at session of Soil and Water Conservation Division of American Society of Agricultural Engineers during 29th annual meeting of Society at Athens, Georgia, June, 1935.

Soil conservation tomorrow. By H.H. Bennett. Ag-ex. News. v.4, no. 2. August, 1935. p. 1, 4-5, 8.

Soil erosion, moisture conservation. By J.G. Haney. Dakota Farmer. v.55, no. 15. July 20, 1935. p. 265, 268.

Stream carved slopes and plains in desert mountains. By Ross Field. American Journal of Science. v.29, no. 172. April 1935. p. 313-322. Supplements and clarifies some interpretations now current in geologic literature regarding desert features.

War against erosion in California. By Harry E. Reddick. Pacific Rural Press. v.130, no. 2. July 13, 1935. p. 31, 39.

When it pays to be crooked. Implement and Tractor. v.50, no. 17. August 24, 1935. p. 8, 29.

Explosives.

Fool-proof explosive found. Popular Mechanics. v.63, no. 5. May, 1935. p. 657. Nitramon. It is twenty per cent stronger than T.N.T. but has been shot at with rifles, thrown into fires, bored with hot irons, subjected to blow-torches and beaten with fifty-pound trip hammers without exploding. Only thing that detonates it is full-sized dynamite cartridge. Essentially it is nitrate of ammonia, containing forty per cent of oxygen. It is white solid, resembling caked table salt, works under water as well as in air, and does not freeze.

Fans.

Quiet fans for air conditioning. By A. Warren Canney. Power. v. 79, no. 8. August, 1935. p.424-425. Tells factors that influence fan selection and how they are put to practical use.

Farm Buildings and Equipment.

Cattle squeeze chute. By Cap E. Miller. Capper's Farmer. v.46, no. 9. September, 1935. p.40.

Engineering farm buildings. By R.H. Driftmier. Georgia Ag. Engineer. 1935. p.15-19.

Farm Buildings and Equipment. (Cont'd)

Present opportunities for better farm building. By K.J.T. Ekblaw. Agricultural Engineering. v.16, no. 7. p. 268-270.

Starting with the barn. By Lewis E. Welsh. Country Home. v.59, no. 9. September, 1935. p. 14-15. Farm group showing how a modern farm plant can combine economy, efficiency and pleasant living conditions.

Stretching the implement dollar. By Grif McKay. Farm Journal. v.59, no. 9. September, 1935. p. 13, 34. Benefits of housing farm machinery.

Farm Machinery and Equipment.

Automotive farm development exerts wide influence. By Charles Deere Wiman. Implement and Tractor. v.50, no. 14. July 13, 1935. p. 10-12, 32. Mechanization is one of greatest economic factors in promoting highest living standards for masses, producing favorable effect on national life and individual affairs.

Basin lister holds soil moisture. Farmer-Stockman. v.48, no. 11. June 1, 1935. p. 7. Machine which is not yet on market was developed by United States Department of Agriculture in cooperation with Iowa State College. In operation it places seed in shallow basins formed by throwing dams across ordinary lister furrows. Machine is expected to reduce erosion of soil, conserve moisture and hold it on the land, also hold snow and prevent soil blowing when used for blank listing in fall.

Corn pickers due for big sales pick-up. By E.T. Leavitt. Farm Implement News. v.56, no. 18. August 29, 1935. p. 26-27.

Cut cost of grain sorghums with power farming. By U.S. Dept. of Agriculture. Farm Implement News. v.56, no. 15. July 18, 1935. p. 18-19. Man with team will harvest about an acre and a half to two acres a day by hand. 15-foot combine requiring two men, will harvest and thresh 20 to 25 acres a day.

Cutting crop costs with modern equipment. By J. S. Witner. Farm Implement News. v.56, no. 15. July 18, 1935. p. 18.

Design and development of a farm implement. By Theo. Brown. Agricultural Engineering. v. 16, no. 7. July, 1935. p. 261-267. Manure spreader with beater on axle.

Expenditures for farm production. Farm Implement News. v.56, no. 18. August 29, 1935. p. 20. Summary of official report for last year with comparisons.

For dusting seed. Arizona Producer. v. 14, no. 11. April 15, 1935. p. 7. Drawing shows how device is made.

Farm Machinery and Equipment. (Con'td)

Good equipment makes a good plowman better. Farm Implement News. v. 56, no. 18. August 29, 1935. p. 36-37.

Harvesting soybeans for hay. By C.J. Willard, L.E. Thatcher, and J.B. Park. Bimonthly bulletin of Ohio Agricultural Experiment Station. v.10, no. 175. July-August, 1935. p. 148-154.

Hay baling revives. By H.G. Anson. Capper's Farmer. v.46, no. 8. August, 1935. p. 7, 16. Field baling facilitates hay-making, insures quality, saves storage and reduces labor in feeding.

Hay making by mass production. Northwest Farm Equipment Journal. v. 49, no. 9. September, 1935. p. 25-26.

Mechanical sugar beet harvester designed by C.F. Powers. Implement Record. v.32, no. 7. July, 1935. p.22. As designed and planned, complete machine would have chassis frame 9 feet and 3 inches long and drive or traction wheels would be five feet in diameter with 6-inch tread. Estimated weight is approximately 4,000 pounds. Harvester would be tractor drawn and ground drive with auxiliary gasoline engine mounted on chassis. Topping mechanism consists of 18-inch bar with reciprocating knife attached to inclined plane at 45 degree angle, which is carried on upright post which slides up and down between rollers. Lifting teeth to pull beets from ground are attached and hinged to spiral worm elevator. One large hinged and swiveled screw controls topping machine and beet lifting and elevator device. It is estimated that machine will operate forward at 2½ miles per hour, topping, digging and loading 10,500 beets per hour at one foot distance.

More power to the farmlands. By Floyd B. Nichols. Successful Farming. v.33, no. 9. September, 1935. p. 10-11, 53, 54. Gives costs and problems involved.

New corn shuckers step out. By E.T. Leavitt. Northwest Farm Equipment Journal. v.49, no. 9. September, 1935. p. 24. All-steel construction, closer tolerance of machined parts, application of roller chains and some cut sprockets, generous use of heat-treated slip-clutches, adoption of improved universal joints, and use of pressure lubrication with roller and ball bearings were all factors which greatly increased durability of modern type machine. Gatherers are of all sheet metal construction designed to raise down and leaning stalks. Conveniently located levers enable operator to raise both at once or adjust them separately as may be required. New snapping rolls have replaceable head at top end and machine-cut spur gears. Upper roll has improved adjustable bearing support which greatly strengthens this unit. Husking units have likewise been improved and simplified in order to increase capacity, produce cleaner corn, minimize shelling and prevent breakage. Elevator is driven by machined and heat-treated bevel gears in enclosed case partially filled with grease.

Farm Machinery and Equipment. (Cont'd)

New Moline-Monitor drills for two types of seeding. Implement and Tractor. v.50, no. 14. July 13, 1935. p. 16, 30.

One-way plow is moving East. Implement and Tractor. v.50, no. 17. August 24, 1935. p.22. Resembled cross between disk plow and disk harrow, and was variously known as "one-way", wheat-land, cylinder or disk tillage plow. Moves surface to depth of from three to six inches, does not bury stubble, rather leaving it exposed to prevent wind blowing and to facilitate absorption of summer moisture. Among its claims to utility has been its ability to cover more acreage in day than any other type of plow.

Power units saved drouth areas. By Edwin A. Hunger. Farm Implement News. v.56, no. 15. July 18, 1935. p.22.

Preparation of feeds for cattle as it affects digestibility and absorption. By E.A. Silver. Agricultural Engineering. v.16, no. 7. July, 1935. p.257-259, 270.

Roughage grinding increasing in popularity. By E.T. Leavitt. Farm Implement News. v. 56, no. 17. August 15, 1935. p. 18.

Solving harvesting problem increases soy bean acreage. By J.C. Hackleman. The Furrow, v.40, no. . August-September, 1935. p. 3, 12. Modern combine minimizes losses and reduces cost of harvesting.

Time and money saved by new binders and harvesters. Wisconsin Agriculturist and Farmer. v.62, no. 14. July 6, 1935. p.3.

Trash shields for plows. By R. H. Wileman. Agricultural Engineering. v. 16, no. 7. July, 1935. p. 260, 286. Gives nearly perfect coverage or corn stalks and other crop residues. Shields are constructed of sheet metal shaped to form hood over top side of furrow slice as it is being turned over. Rear edge of shield is bent down so that it sets perpendicular to ground surface. This edge is irregular in shape so that it conforms to contour of turning furrow slice. Shields are hinged at lower front corners so that they are free to rise and allow any obstruction to pass under them. They are set so that top of shield is as nearly parallel to turning furrow slice as possible, and yet give maximum amount of clearance for trash.

Farm Mechanics.

Knotter trouble. American Agriculturist. v.132, no. 15. July 20, 1935. p.3.

Fences.

Electric-wire farm fences restrict animals. Popular Mechanics. v.63, no. 5. May, 1935. p.705. Wires are connected to control unit that plugs into light socket. While shock is sufficient to keep animals away from fence, it is not severe enough to be dangerous.

Fences. (Cont'd)

One wire temporary fence. By E.R. Gorton. Capper's Farmer. v.46, no. 9. September, 1935. p.30. Single barbed wire stapled to inexpensive short wood posts, 50 feet apart, with electricity properly applied, will hold livestock as safely and securely as concrete and steel. Actually saves 80 per cent of temporary fencing costs. Main feature of this fence is a "controller" that plugs into any light socket. It reduces current from 110 to 90 volts and less than one ampere. Also available is a "controller" that works from 32 volt farm light system. Controller is enclosed in metal case. It sends out pulsating current along wire for distance of 4 miles - enough to fence about 200 acres. This current is on 5 seconds and off 5 seconds. Cost of each 4 miles of fence runs from 10 to 15 cents per month.

Fireplace.

An outdoor fireplace. By Leonard H. Johnson. American Home. v.14, no. 1. June, 1935. p.32, 60. Plans.

Flood Control.

Harnessing the Brazos for flood protection. By John L. Mortimer. Farm and Ranch. v.54, no. 14. July 15, 1935. p. 2, 7. Tabulation of various dams to be built, and statistics in connection with each.

Muskingum flood control forges ahead. Engineering News-Record. v.115, no. 7. August 15, 1935. p. 232-234. Gives official plan of reservoirs for flood control of Muskingum Valley, Ohio.

Putting erosion water to work. By C.B. Brown and C.J. McCash. Extension Service Review. v.6, no. 8. August, 1935. p. 107, 111. Steps taken to control flood water for benefit of ranchers.

Floors.

Fix up your floors. By G. Thomas Harrison. Farm Journal. v.59, no. 9. September, 1935. p. 19, 31. Refinishing and care of old surfaces.

Preventing cracks in new wood floors. Bureau Farmer. Illinois Section. v. 10, no. 11. July, 1935. p.8. Time to prevent occurrence of cracks in floor is when floor is laid. Cracks that develop within few weeks or months in new, well-laid floor are result of change in moisture content within wood itself. This change in moisture content of wood may be due to improper preliminary seasoning; improper storage conditions at mill or retail yard; delivery to building during wet weather or before masonry or plaster walls are dry; or it may be due to absorption of moisture from air within building either before or after flooring is laid.

Flow of Water.

Report of committee on pipe line friction coefficients and effect of age thereon. New England Water Works Association. v.49, no. 3. September 1935. p. 235-337. Coefficients of tar-coated cast-iron pipe with particular reference to effect of age upon coefficient values. Coefficient values of cement-lined pipe. Coefficient of pipe with centrifugally applied bitumastic-enamel lining. Coefficient for miscellaneous types of lining. Lining small mains in place with cement. Corrective water treatment for the reduction of corrosion. Restoration of capacity of unlined cast-iron mains by cleaning. Coefficient values of steel pipe. Coefficient values of concrete pipe various tests affording a direct comparison of coefficient values for different types of pipe. Effect of velocity on values of Williams-Hazen Coefficient

Foundations.

Exploring foundations and pits. By T.A. Middlebrooks. Engineering News-Record. v. 115, no. 9. August 29, 1935. p. 285-290. To obtain complete soil profiles and bedrock data under dam, diversion tunnels and spillway, a drilling program aggregating 87,300 ft., or 17½ miles, of bore holes was carried out. Thorough laboratory studies of soil made.

Laying out the foundation for a building. By Ralph L. Patty. 1935. 4p. South Dakota State College of Agriculture. Agricultural extension service. Special extension circular no. 41.

Searching for foundation beds by electricity and sound. By E. R. Shepard. Engineering News-Record. v.115, no. 7. August 15, 1935. p. 228-232. Experimentation by Bureau of Public Roads demonstrates wide usefulness of both earth resistivity and seismic subsurface surveys with easily portable field apparatus.

Garages.

Garages - attached, semi-attached and detached. By Greville Rickard. House and Garden. v.67, no. 6. June, 1935. p. 37; 75-76.

Heating.

Heat absorbing glass windows. By W.W. Shaver. Heating, Piping and Air Conditioning. v.7, no. 9. September, 1935. p. 447-451.

Heat conductances of adobe. By Hugh M. Milton, Jr. Heating, Piping and Air Conditioning. v.7, no. 9. September, 1935. p. 457-458.

Heating the small house. By Theodore F. Rockwell. Architectural Record. v. 78, no. 2. August, 1935. p. 131-136. Check list covering insulation, heating methods, fuels and utility room.

Houses.

Brick house for $2,295. Brick and Clay Record. v. 87, no. 2. August, 1935. p. 47. Less house for less money is basis on which this home was designed and constructed. Sponsored by Metropolitan Paving Brick Co.

Cost of houses higher and efficiency less, than in cases of automobiles, says N.H. Engle. Domestic Commerce. v. 16, no. 1. July 10, 1935. p. 342. From "The American Housing Problem", paper prepared for Congress of the International Housing Association, Prague, Czechoslovakia, June 23-30, 1935.

Houses for everybody. By H. W. Magee. Popular Mechanics. v.63, no. 5. May, 1935. p. 641-644, 136A.

Latest style log cabin is cheaper to build. Popular Mechanics. v.63, no. 5. May, 1935. p. 684. Cheap, second-growth timber such as northern aspen, can be used. Logs are split in half, allowed to season for several months, then peeled and treated with a chemical preservative to prevent rot and attacks of insects. Walls are built with logs set vertically, preferably on concrete foundation. Flat split surfaces are set up to face each other, each surface overlapping on half of two opposite surfaces. Logs are then spiked together. Such walls have high qualities of durability and rigidity. Virtually any size of logs can be used and insulation can be placed between flat surfaces.

Low-cost houses. Architectural Record. v.78, no. 2. August 1935. p. 79-84.

New prefabricated all-wood houses. California Cultivator. v.82, no. 14. July 6, 1935. p. 412. System comprises use of standard units, or panels to be made in large quantities by factory methods, and then assembled quickly and without waste on site. All roof, wall and other units utilized "stressed covering" principle, that is, plywood sheets forming panel faces are glued on both sides of structural framing, and thus become definite part of load carrying system instead of being dead load supports, as in ordinary nailed construction.

Portable cork and steel house banishes cold. Popular Mechanics. v.63, no. 5. May, 1935. p. 659. Estimated cost of such construction is about one-fourth more than for ordinary frame structures, but to offset this, saving of fifty per cent or more in fuel is claimed. In addition to complete insulation cork and steel homes are fire resistant, vermin proof, immune to dry rot. Corkboard is squeeze-fitted between steel angles and secured with wire. Lumber is used over corkboard roof and on this is laid composite roll roofing. This type of construction permits optional finish, inside and outside, with stucco, brick veneer, sheet iron or stone as outside choices, and plaster, veneer panels or other finish for interior.

Houses. (Cont'd)

Unique floor plan used in low-cost house. Engineering News-Record. v. 115, no. 8. August 22, 1935. p.261. Sponsored and financed by Metropolitan Paving Brick Co. House can be sold for $1,725, including a 3 per cent state sales tax. Arranged in form of square, house is oriented diagonally on site, to give it appearance of greater size. Wedge-shaped room is placed in each corner of the square. Windows are located in corners of rooms, to assure cross-light, avoid shadows, provide ventilation without draft, and increase wall space. Exterior doors are placed at each of four corners.

Insect Control.

Electrocuting the artichoke plume moth. By J.H. Currie. Pacific Rural Press. v.129, no. 25. June 22, 1935. p.653. Use of trap cut percentage down to less than 2 per cent.

Insulation.

Insulation in the open. By Harold Knapp. Printers' Ink. v. 170, no. 13. March 28, 1935. p. 32, 37-38. How celotex merchandises new visual appeal of once invisible product, and increases sales.

Insulation saves fuel bills in Utah homes. By William Peterson. Utah Farmer. v.56, no. 2. August 15, 1935. p. 7.

Modern practice in insulating wall surfaces in refrigerated areas. By Ralph Winslow. Southern Power Journal. v.53, no. 9. September, 1935. p.31-34. Economical operation of ice and cold storage rooms dictates not only the application of insulating materials specifically selected and properly installed, but also a wall and ceiling construction that is air-tight.

New insulating material. Ice Cream Trade Journal. v.31, no. 6. June, 1935. p. 42. Consists of parallel spaced thin metallic sheets which are coated with an alloy to prevent corrosion. Sheets are separated by dead air spaces. Most of heat rays striking these successive sheets are deflected, thus providing insulation. New metallic insulating material is light in weight, requires less space than, and compares favorably in cost with, other insulating materials. Metal insulating material known as "Terro-Therm".

Silica: its forms, properties and technical uses. By William W. Winship. Oil, Paint and Drug Reporter. v. 127, no. 24. June 17, 1935. p. 32-C. Theoretical structures.

Silica: its forms, properties, and technical uses. By William W. Winship. Oil, Paint and Drug Reporter. v. 128, no. 2. July 8, 1935. p. 52, 62. Use in thermal insulation.

Silica: its forms, properties and technical uses. By William W. Winship. Oil, Paint and Drug Reporter. v. 128, no. 3. July 15, 1935. p. 50. Influences on microstructure.

Insulation.

Weatherstrip cuts conditioning costs. American Builder and Building Age. v.57, no. 9. September, 1935. p.58. Gives sectional drawings of window sill, head, jamb and meeting rails showing typical weatherstrip as applied and used in tests recorded at University of Wisconsin.

Irrigation.

All-American canal is materializing. By R.B. Williams. Reclamation Era. v.25, no. 8. August, 1935. p. 162-164. Extends 80 miles from Colorado River to and across Imperial Valley will have initial capacity of 15,000 cubic feet per second.

Irrigation a live subject. By C.F. Walters. Farm Machinery & Equipment. v. no. June 15, 1935. p. 10. Present-day mechanical equipment solves the water problem for market gardeners, potato growers, and other drouth-stricken farmers.

Irrigation as old as farming. By C.F. Walters. Implement Record. v. 32, no. 7. July, 1935. p. 20, 22. Recent drouth again emphasizes prophetic wisdom of early farmers in India and Egypt who anticipated modern irrigation principles.

Irrigation growing in western Oregon. Oregon Farmer. v.58, no. 14. July 11, 1935. p.21. By end of this season there will be under irrigation in western Oregon considerably over 5,000 acres of land.

Irrigation objectives. By O.W. Israelsen. Utah Farmer. v.56, no.1. July 15, 1935. p. 8. VI. Efficiencies in irrigation.

Irrigation objectives. By O.W. Israelsen. Utah Farmer. v.56, no.2. August 15, 1935. p. 16. VII. Economy in irrigation.

Irrigation problems solved by good pumping equipment. By C.F. Walters. Implement and Tractor. v.50, no. 14. July 13, 1935. p. 17.

Sewage contaminated irrigation water a major public health program in the West. By Edward N. Chapman. American Journal of Public Health, and the Nation's Health. v.25, no. 8. August, 1935. p. 930-937. Irrigation water does not need to have purity of domestic water unless it is used for domestic purposes, but it must be protected from gross contamination. California regulations seem sane and practical. Solution is one of education.

Too much irrigation water causes trouble. Idaho Farmer. v.53, no. 12. June 13, 1935. p. 17. Irrigation merely supplements natural rainfall. Up to certain point, increase in irrigation water increases crop yields. Beyond that point, however, more water brings diminishing returns, often in reduced yields, and always in lowered soil fertility and future drainage troubles. Careful experiments have shown that for average seasons and average crop and soil conditions in Idaho, 2.5 acre feet of water are ample.

Land. (Cont'd)

Future need for farm land. By O. E. Baker. Domestic Commerce. v.16, no. 1. July 10, 1935. p. 343. Depends largely upon extent to which rural people adopt urban philosophy of life, and upon extent of migration which may set in from farms to cities. If rural people retain their ideals of family life, and young men and women now on farms, but not needed in agriculture, migrate to villages and small towns, where they find work in industry and commerce, supplemented by part-time farming, there may develop a period in which fruits of science and invention will be more widely distributed among people than in past, in which fear of unemployment and poverty may largely disappear, in which philosophy of life that encouraged sacrifice for sake of children may return, in which mutual confidence may displace distrust in business world, new hope inspire people to greater effort and renewed faith in God help to give meaning to life.

Graphic and quantitative comparisons of land types. By J.O. Veatch. Journal of American Society of Agronomy. v.27, no. 7. July, 1935. p. 505-510. Author has devised scheme for graphic comparison of slopes, and has developed some additional ideas for comparing land on basis of number and areas extent of significant land components.

Land utilization. By Neil M. Clark. Country Gentleman. v. 105, no. 7. July, 1935. p. 8-9, 28, 30.

Lubrication.

Greases - what - where - how - why? By James I. Clower. Power. v. 79, no. 8. August, 1935. p. 408-410. Table gives classification, composition and uses.

Lubrication of air-conditioning equipment. Lubrication. v.21, no.8. August, 1935. p. 85-96.

Miscellaneous.

Federal land bank loans and land bank commissioner's loans - how and where to apply. Revised 1935. 15p. Farm Credit Administration, Washington, D.C. Circular no. 1.

Furnace coal and ashes flow through conveyor pipes. Popular Mechanics. v. 63, no. 5. May, 1935. p. 717. Uses pipes no larger than standard gas and water mains. Conveyor consists of number of open steel rings attached at intervals to endless steel cable, which moves slowly through light-walled tubing. One small motor is powerful enough to handle most complicated installations. Twists and turns are no drawback, since vertical lifts and even right angles can be negotiated with practically no increase in power. Movement of ashes or coal is accomplished at such slow rate that noise, dust and abrasion are practically eliminated. Successful tests with conveyor have been conducted by Anthracite Institute laboratory in Pennsylvania.

Miscellaneous. (Cont'd)

Garbage pulverized for sewers by newly developed machine. Municipal Sanitation. v.6, no. 8. August, 1935. p. 241. Only metals and glass unsuitable for treatment by new machine designed to do away with garbage can. Installed beneath kitchen sink for purpose of grinding waste food and quickly disposing of it through drain pipe into sewer system has been developed by engineers of General Electric Company. Driven by 1/4-horsepower electric motor, which takes current from ordinary 110-volt house circuit, grinder by means of centrifugal action shreds all types of waste food, including bones and other hard substances except bottles and cans. Reduced to fine pulp, this is flushed by water into sewer and carried away as part of sewage stream.

Motors.

Electrically driven auxiliaries for steam generating stations. By E.A. Murray. General Electric Review. v. 38, no. 7. July, 1935. p. 317-323. Part I. General considerations and types of motors.

Electrically driven auxiliaries for steam generating stations. By E. A. Murray. General Electric Review. v. 38, no. 8. August, 1935. p. 362-366. Part II. Mechanical and electrical features of motors.

Paints and Painting.

Influence of pigment on paint film weathering. By Harlan A. Depew. Industrial and Engineering Chemistry. v.27, no. 8. August, 1935. p. 905-908. Physical characteristics of pigment zinc oxide, are of first importance in choice of a zinc oxide including particle size and shape, are of first importance in choice of a zinc oxide for good-weathering paint. Reactivity of zinc oxide with fatty acids in linseed oil is of secondary importance as is also opacity to short wave lengths of light. Preferred form of zinc oxide particles for developing good-weathering paint is large, coarse needles. Superiority of this kind of zinc oxide in improving weathering of paint films is explained in part by development of reinforcing brush heap structure as shown by microscopic investigation. Superiority is also explained as being due in part to deparation of vehicle from large irregular shaped pigment particles and from acicular particles in particular. On this basis, using acicular pigments, paint film is formed that develops innumerable microscopic failures on weathering. Tiny failures relieve stresses and are prevented from becoming visible to large extent through brush-heap reinforcement. Rubber may be considered as specialized form of paint vehicle, and investigations of pigments in it are most helpful in understanding behavior of pigments in paint vehicles in general.

Comprehensive test of aluminum priming. By Robert I. Wray and Junius D. Edwards. Paint, Oil and Chemical Review. v.97, no. 15. July 25, 1935. p. 11-16.

Paints and Painting. (Cont'd)

What paint salesman can do to prevent paint complaints. By F.L. Browne. Paint, Oil & Chemical Review. v. 97, no. 16. August 8, 1935. p. 10, 12, 14-15, 25.

Pipes and Piping.

How to bend pipe. - 1. By H. R. Riley. Power. v. 79, no. 9. September 1935. p. 478-480. Simple procedure for large or small pipe bends with usual small shop equipment.

Public Works.

For W.U.A. project $6,000,000. By E.W. Hudson. Arizona Producer. v. 14, no. 12. September 1, 1935. p. 6-7. Allotment of funds was made for specific purposes as follows: 1. Construct Bartlett dam on Verde River. 2. Complete and reconstruct, as the Reclamation engineers deem necessary, the spillways at Stewart Mountain, Mormon Flat, Horse Mesa and Roosevelt. 3. Build dam on Salt River above Roosevelt to divert water into power canal to replace diversion dam washed out in 1916, and to make necessary repairs on power canal. 4. Miscellaneous project improvement.

Pumps and Pumping.

Carrying water. The Farmer. v. 53, no. 11. June 8, 1935. p. 19. To pump and carry water used in average farm household each year requires 100 miles of travel and two weeks of one person's time. Cost of doing job electrically is less than $10. for power.

Refrigeration.

Domestic refrigerators. Ice and Refrigeration. By George Lange. v. 89, no. 3. September, 1935. p. 110-112. Report of technical committee of Eastern States Ice Association. Data on performance and cost of operation.

Efficient ice box for the camp or cottage. Popular Mechanics. v. 64, no. 1. July, 1935. p. 159. Gives diagram

Refrigerant-fuel, propane. Its application to truck refrigeration. Cold Storage. v. 38, no. 448. July 18, 1935. p. 165. System is composed of four main parts: fuel reservoirs, carried underneath truck; tubular collector, mounted vertically in for part of insulated body; first and second regulating valve; and finally, mixing valve which controls flow of gas to engine.

Repairs and Repairing.

Is your home really in need of repair? By Walter E. Stewart. American Home. v.14, no. 1. June, 1935. p. 40-41. By following systematic inspection plan given you can make survey which will tell you what repairs are essential to preserve your investment in a home.

Research.

Need of historical materials for agricultural research. By Everett E. Edwards. Agricultural History. v. 9, no. 1. January, 1935. p.3-11.

Resettlement.

New rural resettlement program in the making. Arkansas Farmer. v. 38, no. 3. August, 1935. p. 5. Principal purposes: 1. To make loans or grants, or both, to individual families for livestock, farm supplies, farm equipment, repairs and taxes for farms, and for subsistence, food, clothing, etc., to facilitate rehabilitation of these groups on self-sustaining basis. 2. To purchase or lease land for relocation of families living on sub-standard land in stricken areas. 3. To establish, maintain and operate agricultural-industrial communities.

Rivers.

Behavior history of the "Big Muddy." By Roy N. Towl. Engineering News-Record. v. 115, no. 8. August 22, 1935. p. 262-264. Works of civilization have brought a new Missouri river far different in its behavior from the erratic stream of a hundred years ago.

Colorado power and water. Electrical World. v. 105, no. 17. August 17, 1935. p. 35-37. Hydrology of Colorado River shows potentiality for irrigation and flood control to be paid for by power revenue. Unusual construction features of Boulder Dam. Forced cooling of concrete.

Roofs.

That new roof. Will it be wood shingles, metal, asbestos or composition? By W. A. Foster. National Farm Journal. v.59, no.8. August, 1935. p. 7, 31.

Silos.

Insure against high priced feed. By Frank A. Briggs. Farm and Ranch. v. 54, no. 12. June 15, 1935. p. 4, 19. Trench silo construction.

Repairing silos. By C. H. Jefferson. Michigan Farmer. v. 185, no.4. August 17, 1935. p. 23.

Temporary silos. By G.E. Martin. 1935. 8p. Missouri. College of Agriculture. Agricultural Extension Service. Circular no. 327.

Wooden-hoop silo cheap, efficient. By Joseph Belanger. Washington Farmer. v.60, no. 16. August 8, 1935. p. 3.

Silt.

How silt is measured on project streams. By John A. Allis. Soil Conservation. v. 1, no. 1. August, 1935. p. 5-6. As flow of streams during periods of low water is affected by ground-water conditions, it is important to know fluctuation of the groundwater table. The fluctuation is determined by making observations on groundwater level in wells scattered throughout project. Discharge measurements are made by hydrographer which show amount of water, in cubic feet per

Silt. (Cont'd)

second, passing gage. Record is kept of each discharge measurement and of stage of stream at time it is made. Silt samples are collected daily during periods of normal flow. During flood stages samples are collected at intervals ranging from half an hour to two hours. Each sample is marked, showing the time, gage height, and sampling point.

Soils.

Characteristics of resistance type soil sterilizer. By J.R. Tavernetti. Agricultural Engineering. v.16, no. 7. July, 1935. p. 271-274. Series of tests were made to determine following points: 1. General operating characteristics. 2. Effect of varying distance between electrodes. 3. Effect of varying soil density. 4. Effect of varying soil moisture content. 5. Effect of addition of electrolyte. 6. Effect of varying voltage. 7. Effect of various soil types.

Determining colloids in soil for rammed earth construction. By Ralph L. Patty. Agricultural Engineering. v. 16, no. 7. p. 275-276.

New facts in soil mechanics from Research Laboratories. By Arthur Casagrande. Engineering News-Record. v. 115, no. 10. September 5, 1935. p. 320-323. Recent research develops new earth-pressure theory and discloses unexpected data on consolidation characteristics of clays and behavior of soils subjected to shearing stresses.

Storage Houses.

Home storage of vegetable crops. By T. J. Talbert. Missouri Farmer. v.27, no. 16. August 15, 1935. p. 6. Summary of storage suggestions: 1. Location.- For convenience and efficiency, see that storage, whether in storeroom in basement of dwelling outdoor cellar, or storage pit, is constructed and operated as properly as possible. 2. Ventilation.- Keep ventilators of storage room and outdoor cellar open when outside temperature is lower than inside temperature except when there is danger of freezing. 3. Temperature.- Sweet potatoes, squashes, and pumpkins keep best in warm room, 55 to 65 degrees Fahrenheit. Other vegetables like turnips, potatoes, carrots, beets and cabbage should be held at temperature of 34 to 38 degrees if possible. 4. Humidity.- To prevent shriveling atmosphere should be kept damp. Earthen floor gives good results. Concrete floors should be sprinkled every day or two or covered with few inches of earth which may be sprinkled occasionally. 5. Cleanliness.- To prevent injury to vegetables by fungi and bacteria, it is important that rooms be kept clean and sanitary. 6. Rodents. - For protection against rats and mice, all openings should be screened or plugged. 7. Light.- Better results are likely to be obtained by keeping room as dark as possible through shading windows and openings from outside. 8. Condition.- It does not pay to store badly injured, diseased and poor quality vegetables. 9. Arrangement.- Shelves, racks, crates, slat bins, etc., are convenient for storage purposes. 10. Timely Attention.- Examine stored products from time to time.

Tennessee Valley Authority.

T.V. A. By Talcott Powell. The Elks. v. 14, no. 4. September, 1935. p. 16-17, 51-52.

Terracing.

Cost of terracing in Iowa. By Quincy C. Ayers. Agricultural Engineering. v. 16, no. 8. August, 1935. p. 317-318. Terracing cost if affected by, 1. Texture and condition of soil 2. Prevailing degree and regularity of slopes. 3. Extent of erosion at times work is done. 4. Availability of erosion-proof natural outlets for terrace channels. 5. Kind of implements used. 6. Kind of power used to operate implements. 7. Dimensions of terrace channel and embankment. 8. Length of terrace, which determines time consumed in turning at ends. 9. Experience and skill of operators and technique of building. 10. Manner in which work is financed.

Design and construction of sodded terrace outlet channels. By Howard Matson. Agricultural Engineering. v. 16, no. 8. August, 1935. p. 321-322.

Expect this much of terraces. By Tudor Charles. Kansas Farmer. v.75, no. 15. July 20, 1935. p. 3, 17.

Selection of channel grade for terraces. By H.S. Riesbol. Agricultural Engineering. v. 16, no. 8. August, 1935. p. 308-312. Summary of available theory, research, and practical suggestions as governed by soils, agriculture and climate of Red Plains Region. These factors, ad developed in this study, are briefly summarized in following conclusions: 1. Under conditions of fallow or clean cultivated row crop, soil removed from drainage area above terrace channel is controlled largely by vertical spacing of terraces. 2. Time of concentration of flow from any terrace decreases as grade of terrace channel is increased. This results in high velocities of flow in channels of steeper gradient. 3. Maximum rate of runoff per acre increases directly with increase in grade of terrace channel, and it is therefore necessary that terraces of steeper grade have greater channel capacity at lower end, and that capacity of terrace outlet structures be increased accordingly. 4. Deltas of silt, which remain in channel of level terrace due to low velocity of flow, are responsible for formation of long and shallow ponds. 5. Rate of removal from terrace channel of soil deposited there by runoff from interterrace area increases directly with increase in grade of terrace channel. 6. It has been suggested that direction of flow of level terrace may be changed at will by changing location of outlet. 7. If channel of terrace is maintained uniformly level, water flowing in that channel will be at nearly constant depth from one end of terrace to other.

Tallapoosa County's terracing program. By F. N. Farrington. Agricultural Engineering. v. 16, no. 8. August, 1935. p. 313-316. Paper presented at session of Soil and Water Conservation Division of American Society of Agricultural Engineers during 29th annual meeting of Society at Athens, Georgia, June, 1935.

Terrace outlets. By W.D. Ellison. Agricultural Engineering. v. 16, no. 8. August, 1935. p. 298-300, 303.

"Terracing" - a national job. By W. A. Steele. Farm Machinery & Equipment. v. no. June 15, 1935. p. 3-4. Recent dust storms and floods emphasize nation-wide need for action by individual farmers.

Tires.

Changing from steel to rubber. Farm Journal. v. 59, no. 9. September, 1935. p. 33. To change old tractor with steel wheels into rubber-tired rig, cut spokes at proper length and weld them to rim suitable for size of tire desired. Welding and mounting of tire rim should be done only by competent welder and one who has sufficient knowledge of stresses to which wheel is subjected in service.

New uses for rubber tires. By C.O. Crandall. Capper's Farmer. v. 46, no. 9. September, 1935. p. 20, 40.

Non-skid slots cut on tires by thread machine. Popular Mechanics. v. 63, no. 5. May, 1935. p. 724. By cutting series of fine slots transversely on tread of automobile tire, new machine minimizes hazard of skidding. Small slots grip road better than ordinary tread, eliminating much of danger on slippery streets. It can be applied to old or new tires.

Pneumatic tires for farm implements. By R.U. Blasingame. Pennsylvania Farmer. v. 113, no.3. August 3, 1935. p. 5, 15.

Three years of rubber tires. Implement and Tractor. v. 50, no. 16. August 10, 1935. p. 10-11.

Tractors.

Diesel tractor demonstration. Better Farm Equipment and Methods. v. 8, no.1. September, 1935. p. 13, 16. Tests supervised by Purdue University engineers.

Ideal general purpose garden tractor. By E.C. Sauve. Implement Record. v. 32, no. 9. September, 1935. p. 13-14. Suggested specifications.

Finds most walking tractor users satisfied. Implement Record. v. 32, no. 8. August, 1935. p. 16-17.

New method of obtaining dust for testing tractor air cleaners. By F.A. Brooks. Agricultural Engineering. v. 16, no. 8. August, 1935. p. 323-326.

Tractor costs in Michigan. By K.T. Wright. Quarterly Bulletin of Michigan Agricultural Experiment Station. v. 18, no. 1. August, 1935. p. 49-53. Table 1. Costs of tractor operation on 66 Michigan tractors, 1934. Table 2. Tractor use by operations for 64 Michigan tractors, 1934. Table 3. Relation of hours tractor was used to costs and labor efficiency, 1934. Table 4. Size of farm as related to tractor costs and labor efficiency.

Tractors on farms increase despite depression. Implement Record. v. 32, no. 8. August, 1935. p. 11. Research department of the Farm Equipment Institute estimates that there were 1,123,251 tractors on farms on January 1, 1935, as compared to 920,032 on January 1, 1930, an increase of about 22 per cent. It also estimates that this number has been increased to 1,174,889 as of July 1 this year.

Trend's to small tractors. By J.B. Badley. Implement Record. v.32, no. 8. August, 1935. p. 14-15. Cites statistics.